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Serial No. 09/760,017
60130-984

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Lc Hir, et al
Serial No.: 09/760,017
Filed: January 12, 2001
Group Art Unit: 2834
Examiner: Tamai, Karl L.
Title: A MOTORIZED REDUCTION GEAR WITH A COMMUTATOR
HAVING AN INTEGRAL MAGNETIC RING

Mail Stop Appeal Brief- Patents
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

APPEAL BRIEF

Dear Sir:

Subsequent to the filing of the Notice of Appeal on January 11, 2006, Appellant hereby submits its brief. The Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds, P.C. \$500.00 for the appeal brief fee. Any additional fees or credits may be charged or applied to Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds, P.C.

REAL PARTY IN INTEREST

The real party in interest is Meritor LVS France, the assignee of the entire right and interest in this Application.

RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

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STATUS OF CLAIMS

Claims 1-12 are pending in this application. Claims 1, 4, 8 and 9 stand finally rejected under 102(b). Claim 11 stands finally rejected under 103(a). Claims 2, 3, 6, 7, 10 and 12 have been withdrawn. Claim 5 has been allowed.

STATUS OF AMENDMENTS

All amendments have been entered.

SUMMARY OF CLAIMED SUBJECT MATTER

As shown in Figure 1, this invention relates to a motorized reduction gear 1 including a rotor 4. The rotor 4 is provided with a rotor shaft 5 bearing a commutator 9. The commutator 9 has a body having an inner surface mounted on the rotor shaft 5. The commutator 9 also includes an opposing outer surface (page 2, lines 27 to 30 and line 36). The motorized reduction gear 1 further includes a reduction gearbox 13 that contains a gearwheel engaged with a worm 8 of the rotor shaft 5 (page 2, lines 31 to 32, page 2, lines 36 to 39 and page 3, lines 1 to 2). A magnetic ring 14 is mounted on the rotor shaft 5 so that a number of rotations of the rotor shaft 5 can be counted. The magnetic ring 14 is attached on the opposing outer surface of the body of the commutator 9 (page 3, lines 3 to 12). This basic structure is set forth in Claim 1.

Claim 4 depends on claim 1 and adds that the commutator 9 includes an annular recess 21 located at an end of the commutator 9, and the magnetic ring 14 is housed in the annular recess 21. Claim 8 depends on claim 4 and adds that the end of the commutator 9 is free of hooks (page 3, lines 21 to 26).

Claim 9 depends on claim 1 and adds that the motorized reduction gear 1 includes an attachment feature that attaches the magnetic ring 14 to the commutator 9. Claim 11 depends on claim 9 and adds that the attachment feature is an elastic clip 25A (page 3, lines 27 to 35).

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60130-984**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

- A. Are Claims 1, 4, 8 and 9 properly rejected under 35 U.S.C. 102(b) based on Takeda et al. (GB 2,289,351)?
- B. Is Claim 11 properly rejected under 35 U.S.C. 103(a) based on Takeda et al. in view of Knapp (U.S. Patent No. 5,565,721)?

ARGUMENTS**A. Anticipation of Claims 1, 4, 8 and 9 based on Takeda.****Claims 1 and 8**

The Examiner finally rejected Claims 1, 4, 8 and 9 as being anticipated by Takeda. Takeda does not disclose a motorized reduction gear including a commutator including a body and a magnetic ring attached on an outer surface of the body of the commutator as claimed. Takeda discloses a power window apparatus including a tubular collar 21 fastened to a rotating shaft 17 (page 9, lines 2-3). As shown in Figure 1, the commutator 20 is located on the tubular collar 21. A magnetic sensor 33 is "fastened around the rotating shaft 17 utilizing the tubular collar 21, which supports the commutator 20" (page 10, lines 8 to 13). As further shown in Figure 1, the commutator 20 is located at one end of the tubular collar 21, and the magnetic sensor 33 is located at the other end of the tubular collar 21. A space therefore exists between the tubular collar 21 and the commutator 20.

The present invention is patentable and strikingly different from Takeda. As described by the claims, the present invention provides a motorized reduction gear including:

a rotor provided with a rotor shaft bearing a commutator; said commutator including a body having an inner surface mounted on said rotor shaft and an opposing outer surface; a reduction gearbox containing a gearwheel engaged with a worm of said rotor shaft; and a magnetic ring

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mounted on said rotor shaft so that a number of rotations of said rotor shaft can be counted, wherein said magnetic ring is attached on said opposing outer surface of said body of said commutator.

[See Claim 1]. Claims 1, 4, 8, 9 and 11 of the present invention all share these same or similar features. [See Claims 1, 4, 8, 9 and 11].

The claimed invention is not anticipated by Takeda. The claims recite a motorized reduction gearing comprising a "commutator including a body" having an inner surface mounted on a rotor shaft and an opposing outer surface to which a magnetic ring is attached. The Examiner is calling the tubular collar 21 of Takeda the body of the commutator 20.

Takeda discloses that "the magnetic sensor 33 is fastened around the rotating shaft 17 utilizing the tubular collar 21, which supports the commutator 20." The claims recite that the commutator includes the body. As the tubular collar 21 of Takeda supports the commutator 20, the commutator 20 cannot include the tubular collar 21. Instead, the commutator 20 is supported by the tubular collar 21. The body of commutator 20 is the commutator 20. The tubular collar 21 is not the body of the commutator 20, but a component onto which the commutator 20 is mounted.

The magnetic sensor 33 of Takeda is mounted on the tubular collar 21 (shown in Figure 1). As the commutator 20 does not include tubular collar 21, the magnetic sensor 33 is not attached on the body of the commutator 20 as claimed. The commutator 20 is clearly shown in Figure 1 as being spaced from the magnetic sensor 33. Therefore, the magnetic sensor 33 is not attached to the body of the commutator 20. The claimed invention is not anticipated by Takeda, and Appellant respectfully requests that the rejection be withdrawn.

Claim 4

The rejection of Claim 4 is separately contested from the rejection of Claims 1 et al. Claim 4 recites that the magnetic ring is housed in an annular recess located at an end of the commutator. Figure 1 of Takeda shows a space between the commutator 20 and the magnetic sensor 33. The

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magnetic sensor 33 is mounted on the tubular collar 21 that supports the commutator 20. However, the commutator 20 does not include the tubular collar 21 for the reasons set forth above. The tubular collar 21 is a separate component from the commutator 20 and is disclosed as supporting the commutator 20. As the magnetic sensor 33 is not attached on the commutator 20, Takeda does not disclose that the magnetic sensor 33 is housed in an annular recess located at an end of the commutator 20. The magnetic sensor 33 of Takeda is attached to the tubular collar 21, not to the commutator 20. Claim 4 is not anticipated, and Appellant respectfully requests that the rejection be withdrawn.

Claim 9

The rejection of Claim 9 is separately contested from the rejection of Claims 1 et al. Claim 9 recites that an attachment feature attaches the magnetic ring to the commutator. Figure 1 of Takeda shows a space between the commutator 20 and the magnetic sensor 33. The magnetic sensor 33 is mounted on the tubular collar 21 that supports the commutator 20. However, the commutator 20 does not include the tubular collar 21 for the reasons set forth above. The tubular collar 21 is a separate component from the commutator 20 and is disclosed as supporting the commutator 20. As the magnetic sensor 33 is not attached on the commutator 20, Takeda does not disclose an attachment feature that attaches the magnetic sensor 33 to the commutator 20. The magnetic sensor 33 of Takeda is attached to the tubular collar 21, not to the commutator 20. Claim 9 is further not anticipated by Takeda, and Appellant respectfully requests that the rejection be withdrawn.

B. Obviousness of Claim 11 based on Takeda in view of Knappe.**Claim 11**

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda in view of Knappe. Claim 11 recites that the attachment feature that attaches the magnetic ring to the commutator is an elastic clip. The Examiner states that Takeda does not disclose using an elastic clip to attach a magnet to a commutator. The Examiner states that Knappe teaches an elastic clip 41,

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and it would be obvious to construct the motor of Takeda such that the magnet is secured to the shaft by an elastic clip. Appellant respectfully disagrees.

Claim 11 depends on patentable independent claim 1 and is allowable for the reasons set forth above. The claimed invention is not obvious because neither of the references individually discloses, suggests or teaches a motorized reduction gear including a commutator including a body and magnetic ring attached on an outer surface of the body of the commutator as claimed. In Takeda, the magnetic sensor 33 is attached to the tubular collar 21 and is not attached to the commutator 20 for the reasons set forth above. In Knappe, a plastic bushing 4 includes hooks 41 that secure a magnet part 3 to a rotor shaft 2. Knappe does not disclose that the magnet part 3 is attached to a body of a commutator. Therefore, the references together does not teach, suggest or disclose a magnetic ring attached on a body of a commutator with an elastic clip. The claimed invention is not obvious, and Appellant respectfully requests that the rejection be withdrawn.

CONCLUSION

For the reasons set forth above, the rejection of all claims is improper and should be reversed. Appellant respectfully requests such an action.

Respectfully Submitted,

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Dated: February 7, 2006

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CERTIFICATE OF FACSIMILE

I hereby certify that this appeal brief is being facsimile transmitted to the United States Patent and Trademark Office, 571-273-8300 on February 7, 2006.


Amy M. Spaulding

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CLAIM APPENDIX

1. A motorized reduction gear comprising:
a rotor provided with a rotor shaft bearing a commutator;
said commutator including a body having an inner surface mounted on said rotor shaft and an opposing outer surface;
a reduction gearbox containing a gearwheel engaged with a worm of said rotor shaft; and
a magnetic ring mounted on said rotor shaft so that a number of rotations of said rotor shaft can be counted, wherein said magnetic ring is attached on said opposing outer surface of said body of said commutator.
4. The motorized reduction gear as recited in Claim 1, wherein said commutator includes an annular recess located at an end of said commutator, and said magnetic ring is housed in said annular recess of said commutator.
8. The motorized reduction gear as recited in claim 4, wherein said end of said commutator is free of hooks.
9. The motorized reduction gear as recited in claim 1, further including an attachment feature that attaches said magnetic ring to said commutator.
11. The motorized reduction gear as recited in claim 9, wherein said attachment feature is an elastic clip.

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EVIDENCE APPENDIX

None

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RELATED PROCEEDINGS APPENDIX

None

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